

AMENDMENTS TO THE CLAIMS

1-4. (Cancelled)

5. (New) A method of controlling plasma frequency of a high temperature superconductive tunnel junction comprising:
disposing two single crystals of a high temperature superconductor on a substrate at an intersecting angle of the two single crystals in a range of 0 to 90 degrees, and
bonding the two single crystals to form a high temperature superconductive tunnel junction in a bonded portion of the single crystals.

6. (New) The method of claim 5, wherein the two single crystals are any one of a whisker, a finely processed single crystal and a thin film, or a combination of two types of them.

7. (New) The method of claim 5, wherein the high temperature superconductor is a bismuth compound and its superconductive phase is any one of 2212 phase, 2201 phase and 2223 phase, or a combination of two or more types of them.